

REMARKS

In the Final Office Action mailed March 11, 2008, and the Advisory Action mailed July 14, 2008, the Examiner objected to the oath/declaration, objected to Claims 8 and 17, rejected Claims 1-20 under 35 U.S.C. §101, rejected Claims 1-8, 10-17, 19 and 20 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,147,492 (“the Zhang patent”), and rejected Claims 9 and 19 under 35 U.S.C. §103(a) as being obvious in light of the Zhang. Each rejection and objection is addressed below.

I. Interview Conducted July 24, 2008

Examiner Mehta and attorney of record Robert Goetz conducted an interview on July 24, 2008 to discuss the Advisory Action and the pending claim set. The Applicants appreciate the Interview.

II. Objection to the Declaration

The Examiner stated, “The oath or declaration is defective because it does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to **patentability** as defined in 37 CFR 1.56.” Final Office Action, page 2. The Applicants submitted Declarations in compliance with 37 C.F.R. §1.56.

III. Objection to Claims 8 and 17

The Examiner stated, “Claims 8 and 17 objected to because of the following informalities: the word ‘echos’ appears where the word ‘echoes’ should be used.” Final Office Action, page 2. The Applicants amend Claims 8 and 17 in the manner suggested by the Examiner.

IV. Rejection of Claims 1-18 under 35 U.S.C. §101

The Examiner stated, “Claims 1-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter... Examiner respectfully suggests that claims 1-18 be amended to recite a software program embodied on a computer readable medium, for example, in order to render the claimed subject matter statutory.” Final Office Action, page 3.

The Applicants respectfully disagree. However, in order to expedite prosecution while not acquiescing with the Examiner's arguments, the Applicants amend Claims 1 and 10 in the manner suggested by the Examiner. The Applicants reserve the right to prosecute previously presented Claims 1 and 10, or similar claims, at a future date.

V. Rejection of Claims 19 and 20 under 35 U.S.C. §101

The Examiner stated, "Claims 19 and 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter...Examiner suggests that Applicant amend the independent claims to include a step for displaying an output or treating a patient based on the outcome of the imaging steps in order to cure statutory deficiencies of the instant application." Final Office Action, page 3. The Applicants respectfully disagree. However, in order to expedite prosecution while not acquiescing with the Examiner's arguments, the Applicants amend Claims 19 and 20 in the manner suggested by the Examiner. The Applicants reserve the right to prosecute previously presented Claims 19 and 20, or similar claims, at a future date.

VI. Rejection of Claims 1-8, 10-17, and 20 under 35 U.S.C. §102(b)

Claims 1-8, 10-17 and 20 were rejected under 35 U.S.C. §102(b) as being anticipated by the Zhang patent.

The Applicants respectfully disagree. However, in order to expedite prosecution while not acquiescing with the Examiner's arguments, the Applicants now amend Claims 1 and 10 such that each recite, for example, that one pair of consecutive in-phase or out-phase echoes of a sample are collected and processed in magnitude format. Support for these amendments is located throughout the Specification (see, e.g., paragraph 55 of the published application). The Applicants reserve the right to prosecute previously presented Claims 1 and 10, or similar claims, at a future date.

In the Advisory Action mailed July 14, 2008, the Examiner stated, "The proposed amendments change the scope of the claimed invention such that new search and/or consideration would be required before a determination of patentability could be made." Respectfully, the Applicants submit that the currently presented claims are not anticipated by the Zhang patent. The Zhang patent does not teach, suggest, enable and/or motivate the collection

and processing of echoes (e.g., images) in magnitude format. Unlike the currently presented claims, the Zhang patent describes the collection and processing of *complex-valued* images, as opposed to magnitude format images, from an MRI device. An essential element of the Zhang patent involves “phase unwrapping” of data collected from an MRI device during image processing (see, e.g., Sections I and II of the Zhang patent). Phase unwrapping typically involves extrapolation of phase information across spatial regions via seed-growing and/or polynomial models which requires collection and processing of *complex-valued* images (see, e.g., Section II of the Zhang application). The Zhang patent does not describe collection and processing of at least one pair of consecutive in-phase or out-phase echos of a sample in magnitude format, and as such, the Zhang patent does not anticipate the currently presented claims.

Moreover, as the Zhang patent only describes the collection of *complex-valued* images and algorithms designed only to process *complex-valued* images, the Zhang patent teaches away from the collection and processing of images collected in *magnitude format*. Indeed, one skilled in the art would not be motivated to modify the Zhang patent to implement the collection and processing of images collected in magnitude format because, for example, the algorithms and processing techniques described in Zhang patent are incompatible with images collected in magnitude format. The Applicants request these rejections be withdrawn.

VI. Rejection of Claims 9 and 19 under 35 U.S.C. §103(a)

Claims 9 and 19 were rejected under 35 U.S.C. §103(a) as being anticipated by the Zhang patent. Claims 9 and 19 are dependent upon non-anticipated and non-obvious Claim 1. As discussed in Section V of this Office Action Response, the Zhang patent fails to teach all of the required elements within independent Claims 1 and 10. As such, a *prima facie* case of obviousness has not been established. The Applicants request these rejections be withdrawn.

VII. Conclusion

All grounds of rejection of the Final Office Action of March 11, 2008, and the Advisory Action mailed July 14, 2008, have been addressed and reconsideration of the application is respectfully requested. It is respectfully submitted that Applicant's claims should be passed into

PATENT
Attorney Docket No. **UM-08780**

allowance. Should the Examiner believe that a telephone interview would aid in the prosecution of this application Applicant encourages the Examiner to call the undersigned collect at (608) 218-6900.

Dated: September 11, 2008

/Robert A. Goetz/

Robert A. Goetz
Registration No. 55,210
CASIMIR JONES, SC
440 Science Drive, Suite 203
Madison, WI 53711
Tel: 608-218-6900
Fax: 608-218-6910